

## HABITAT 67

Moshe Safdie was the architect of Habitat 67 in every sense of the word. Without him it wouldn't just have looked different; it would not have happened at all. It was he who first proposed the idea of a living demonstration of urban housing as one of the highlights at Expo 67. He was working for the Canadian Corporation for the 1967 World Exhibition on a master plan, and he saw the chance to build the subject of his final year thesis study at McGill University, which was still much in his thoughts. He sold the idea to the Corporation, was granted money to develop it, and prepared a presentation that carried away three governments: municipal, provincial and federal. Thus it happened in 1964 that Safdie, at the age of 26 and just three years out of college - one of them with Louis Kahn, was commissioned to build his dream.

It was not a lonely dream. The habitat idea has hovered in the background of the architectural conscience all this century, one way or another. Its basis is that modern architecture must become more involved in making an appropriate total environment for modern life. The rules require the integration of traffic, vertical communication, outdoor and indoor communal amenities, and last, but perhaps not entirely least, apartments in which people might actually want to live. Not

so very long ago its image was the Corbu spectacle of towering headstones linked by ribbons of roads across parkland. This vision faded after World War 2 when glass slab skyscrapers and elevated freeways suddenly appeared in disorganised abundance and lost their romantic novelty. So the monumental vision dissolved into the Unite d'Habitation, in which the individual units were beginning to have identity. Remember the fearsome Corbu colours celebrating the separateness of the apartment balconies. Then the Unite image gave way to the cluster concept, in which thinking starts with the individual units and builds up to a monument.

According to Reyner Banham, the cluster concept was first stated in an article by Kevin Lynch in 1954 (the year Unite was completed). In 1957 Alison and Peter Smithson described the ideal as 'a close-knit, complicated, often-moving aggregation, but an aggregation with a distinct structure.' They advised: 'We must think out for each place the sort of structure which can grow and yet be clear and easily understood at each stage of development.'

In the following decade many a building was erected which professed to subscribe to these high principles but which finished up as just another closed, competitive apartment

block. Kenzo Tange with his students at M.I.T. in 1960 first gave the cluster a powerful image, and later the same year developed the idea further in his well-known proposal of a plan for Tokyo. But Moshe Safdie was the first to keep hold of the ideals, and a strong image, and to get it built, even if not in quite as good a shape as he first proposed.

His original scheme had some 900 dwellings for 5000 people in two separated blocks. The larger was composed of parallel, spaced, staggered rows of neo-Unité slabs which were in effect toppled inwards until their top corners touched and they supported each other while making an equilateral triangle with the ground. It was a nice development from the Tange - MIT scheme, which clustered the dwellings on the sides of enormous tents. These threatened to be somewhat dingy on the inside, whereas in Safdie's scheme the undersides of the slopes still had open outlooks. His smaller block was a shorter modification of the first; all the slabs leant the one way, although they zig-zagged in plan. They were supported by vertical circulation shafts.

What has been built is only a large part of the smaller block, capable of housing some 700 people in 158 units. What was to be a way of life has been hacked down by politics and economics to the size of an ordinary apartment block. Safdie's triumph

is that, despite this, he has held on grimly to the essentials of the original idea and has not allowed it to become, in spirit or image, just another one of those familiar things. It manages to convince as a little scrap of tomorrow. Since this was the object of the exercise as an Expo exhibit almost any price paid in practical building discomfort and economics was pre-justified. The estimated final cost of about \$100,000 per average apartment sounds ridiculous enough, but these few units have to be considered as pacemakers for something bigger, or not considered seriously at all. This cost, after all, includes massive overheads - for example one special crane costing \$750,000 - which would have been no more costly for the originally planned 900 units.

The sociological objective of all clusters is to bring people back close to the heart of the city, or to cheer up those who are still left there, by restoring a sense of community yet at the same time providing something of the space and privacy enjoyed in the suburbs. Habitat 67 responds to this in several ways. Its site is a socio-architect's delight, for it recovers a section of Montreal's lost waterfront. Its size is just big enough and its character quite strong enough to impress any inmate with a sense of a unique environment. There are communal play terraces and such leading off the wide balconies which serve as communication on every fourth floor and which are called, as you may have guessed, streets. Yet

the complicated stacking of the residential units lends them individuality and a remarkable sense of privacy.

The technological objective of clusters is to exploit mass-production of the minor, monotonously repetitive elements of dwellings within a major structural system. Habitat 67 responds to this with a technique already well publicised. Concrete boxes measuring 17'6" x 38' x 10' high, weighing 90 tons, are precast on site, sandblasted and fitted out on the ground, and hoisted into place on that expensive travelling crane. Compromises along the way have led to less than half the finishing trades being done on the ground; partitioning and most fitting work now take place when the box is in position. Bathrooms are continuously moulded fibreglass shells. Kitchens are by Frigidaire, neat but ordinary.

The apartments come in three sizes. The smallest is a single box (665 square feet). Bigger units are made of two or three boxes linked together, usually in a two-storey arrangement.

The Russians, of course, have been precasting apartment boxes for years, though without the help in the kitchen of General Motors and sometimes with deplorable finishes. Still, the fact that they persist with the system seems to indicate its

economic viability, since all its purely propaganda value as a demonstration of space-age housing must have been drained out long ago. The standard precast Russian boxes are about the same size as Habitat's, but are stacked into slabs safely and squarely and are held together by gravity.

Saffie's biggest innovation was to tie pairs of blocks together vertically by post-tensioned cables, three on each side, fitted into internal pilasters, the outer ones three feet from the ends of the boxes. This system allows the boxes to be stacked almost any way imaginable. One can be tied down at right angles to the box below. Another box can be offset above with nearly half its length cantilevering out over, perhaps, a children's play plaza. Up to five such cantilevers may be stepped out perilously one above the other if the architect calls for it. This device has made possible the well-publicised outdoor-living decks enjoyed by all apartments on exposed parts of the roofs of lower boxes, bordered by automatically-watered flower boxes. It also provides the anti-gravity, science-fiction Flying Housing look, which is exciting, frivolous and entirely appropriate for Expo 67.

To that extent it is a resounding success. Nevertheless some awkwardness is inherent in the free-stacking scheme, which will limit its ability to influence the practical men of the

apartment building business. For instance, the plumbing is necessarily scattered haphazard throughout the complex. Safdie's solves the resulting problem of waste pipes by gathering those of each apartment together under a false floor and discharging them into the nearest vertical plumbing stack. He passes them through a single anti-siphon trap which eliminates the need for any back vents, which indeed would have reduced the attractions of life on the roof gardens. The system works, but the need for timber ~~else~~ floors everywhere deflates the concept of precast, self-sufficient boxes. Also the dozens of variations that were thought to be necessary or desirable in the placing and shaping of window and door openings in the different boxes reduces to some extent the efficiency of the mass-production technique.

The artistic objective of clusters is to make the whole greater than the sum of the parts. Habitat 67 achieves this firstly by making sure that there is a whole. All the structural elements, the vertical elevator towers, sloping stairways and horizontal 'streets', as well as the boxes, are consistently precast concrete. The surface throughout is unconscientiously sandblasted and as austere as the form is extravagant. Although a fashionable diagonal is stressed both in plan and section, the progression and recession of the boxes

in defiance of the overall discipline lends a quality of irrefutable empirical aptness reminiscent of villages not far from Moshe Safdie's birthplace of Haifa. But the hollows between some boxes, affording glimpses of other precariously stacked boxes several floors and maybe hundreds of feet away, play a teasing game with space that is entirely of this century, while the concise yet open ended, almost still-growing form of the whole belongs intimately to the late 1960's.

Thus, in terms of sociology, technology and architecture, Habitat 67 should go far - as far as it is possible for any building of its size to go - in fulfilling its primary function of demonstrating to Expo visitors a third way of life, and a possible way of building it.

A fourth objective of cluster blocks is humanist: to make the units especially good places for living. In Habitat 67 the apartment boxes, which are literally and figuratively the bricks that support the whole idea, are found to be, on entering, somewhat anti-climactic. After the spatial thrills and the brave grey concrete of the exterior, the insides of the boxes seem no more communicative than most other good, conventional, compact, smoothly plastered apartments. After all, that is the nature of a box. However, by Government direction, half the model apartments which are open for display



during Expo are decorated and furnished by a women's home magazine, so perhaps interior quality of the architecture is irrelevant.